

REMARKS

Claims 1, 3 and 5 are all the claims pending in the application.

In the present Amendment, claim 1 has been amended to recite adding ascorbic acid, isoascorbic acid, or dihydroascorbic acid, or ascorbic acid stearic acid ester, ascorbic acid palmitic acid ester or salts thereof to said protein material and an optional secondary material, and thereafter treating said protein material and optional secondary material at a high temperature under elevated pressure until the temperature thereof rises to from 110 to 200 degrees C. Support for the amendment to claim 1 can be found in the specification, for example, at page 8 last paragraph bridging page 9.

No new matter has been added, and entry of the Amendment is respectfully requested.

I. Response to Rejection under 35 USC § 112

Claims 1, 3, and 5 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner asserts that, while there is support in the specification (page 8, line 26-page 9, line 5) to recite specific esters of ascorbic acid, there does not appear to be support to broadly recite “ascorbic acid, isoascorbic acid, or dihydroascorbic acid...or esters thereof” as recited in claim 1.

Without acquiescing in the merits of the above rejection, claim 1 has been amended to recite specific esters of ascorbic acid. Present claim 1, as amended, recites adding ascorbic acid, isoascorbic acid, or dihydroascorbic acid, or ascorbic acid stearic acid ester, ascorbic acid palmitic acid ester or salts thereof to said protein material and an optional secondary material.

Withdrawal of the rejection of claim 1 under 35 U.S.C. §112, first paragraph, is respectfully requested.

II. Response to Rejection under 35 USC § 102

Claims 1, 3 and 5 remain rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hamai et al. (JP 2941416; "Hamai").

Applicants respectfully traverse.

Claim 1, as amended, recites a method for controlling hydrogen sulfide odor which is generated in a treatment of a protein material at a high temperature under elevated pressure, which comprises adding ascorbic acid, isoascorbic acid, or dihydroascorbic acid, or ascorbic acid stearic acid ester, ascorbic acid palmitic acid ester or salts thereof to said protein material and an optional secondary material, thereafter treating said protein material and the optional secondary material at a high temperature under elevated pressure until the temperature thereof rises to from 110 to 200 degrees C, cooling said treated protein material and the optional secondary material, and obtaining a food material.

Present claim 1 requires that the ascorbic acid analogue is added to the food material prior to treating with heat and pressure or obtaining a food material.

Hamai does not teach adding the ascorbic acid analogue to the food material prior to treating with heat and pressure or obtaining a food material.

As previously pointed out, in Hamai, a structured compound (a food material) is i) obtained after exposing fish-meat to high temperature and high pressure, ii) is frozen, and then iii) is heated in a solution containing an oxidizing agent or a reducing agent. The English translation of the relevant sections of Hamai was submitted with the Amendment filed January 28, 2010. Hamai does not teach adding the ascorbic acid analogue to the food material prior to treating with heat and pressure or obtaining a food material. Rather, Hamai teaches that the food

material must be first treated at high temperature and pressure and then the treated material secondarily may be subjected to treatment with an oxidizing or reducing agent.

Accordingly, Hamai does not anticipate the present claims because Hamai does not disclose or suggest each and every element of the claimed subject matter, as presently recited in claim 1.

Further, Hamai does not render obvious the presently claimed subject matter for the following reasons.

The present invention provides advantageous effects by adding ascorbic acid analogues prior to treating with heat and pressure or obtaining a food material. The presently claimed invention relates to controlling (suppressing) the generation of hydrogen sulfide caused by treatment at high temperature under elevated pressure. The presently claimed invention is not an invention of eliminating odor of hydrogen sulfide that has been generated.

In Example 7 of the present application (at page 17 of the specification), it is described that “[T]he amount of hydrogen sulfide was determined for a sample in which nothing was added to the meat paste and samples in which from 0 to 0.5% of sodium ascorbate was added to the meat paste.” In this regard, the term “meat paste” indicates the paste at the stage of raw material. In Example 7, ascorbic acid is added prior to heat treatment.

According to the present application, by adding ascorbic acid to raw materials, ascorbic acid can be uniformly mixed with the raw materials, and the hydrogen sulfide odor can be controlled quickly and significantly owing to the presence of the ascorbic acid at the time of heat treatment where hydrogen sulfide is normally generated.

Originally, the meat paste, such as fish meat, turns into a gel when heated at a high temperature under elevated pressure. Therefore, it is not possible to mix ascorbic acid with the

meat paste after the heat treatment, and thus burdensome and time-consuming methods, such as that of immersing the food material into aqueous solution like the invention of Hamai, have to be adopted.

In contrast, the present invention provides unexpected results in that the hydrogen sulfide odor can be controlled by merely adding ascorbic acid at first, and then conducting the usual process.


Accordingly, the present claims are patentable over Hamai. Reconsideration and withdrawal of the §103(a) rejection of claims 1, 3 and 5 based on Hamai are respectfully requested.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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